CW#112/HW#112: Solutions on a Graph

Geometry  
Due: Friday, April 15th

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP:\_\_\_\_\_

Failure to show all all work and complete all problems will result in a LaSalle   
You will be able to determine the total number of intersection points of two equations given their graph.

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| Directions: Circle each place the given functions intersect. Write the total number of intersections points. | |
| Total # of intersection points: | Total # of intersection points: |
| Total # of intersection points: | Total # of intersection points: |
| Total # of intersection points:     ../../../../../Desktop/Screen%20Shot%202016-04-10%20at%204.57.45%20PM | |

You will be able to describe how to identify solutions given the graph of a system of equations.

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| 1 Solution | 2 solutions | | | 4 solutions |
| No solutions | | Infinitely many solutions | | |
| ../../../../../Desktop/Screen%20Shot%202016-04-10%20at%203.38.49%20PMDraw an example of a system of equations that has 7 solutions | | | Explain why you chose to draw the graph the way you did. | |
| Describe how you would find the solution to a system of equations given a graph of the equations. | | | | |

You will be able to identify graphical solutions and prove your answer numerically (Plugging the inputs to each function and getting the output) or algebraically (setting them equal and solving for x).

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| Directions: Given the graph of the system of equations circle the solutions, write their coordinates, and prove your answer (numerically or algebraically). | |
| **../../../../../Desktop/Screen%20Shot%202016-04-10%20at%203.09.20%20PM** | Solutions identified from graph:  Prove your answer: |
| **../../../../../Desktop/Screen%20Shot%202016-04-10%20at%203.18.05%20PM** | Solutions identified from graph:    Prove your answer: |
| ../../../../../Desktop/Screen%20Shot%202016-04-10%20at%203.38.49%20PM | Solutions identified from graph:  Prove your answer: |
|  | Solutions identified from graph:  Prove your answer: |
| ../../../../../Desktop/Screen%20Shot%202016-04-10%20at%203.38.49%20PM | Solutions identified from graph:  Prove your answer: |
| ../../../../../Desktop/Screen%20Shot%202016-04-10%20at%203.38.49%20PM | Solutions identified from graph:  Prove your answer: |
|  | Solutions identified from graph:  Prove your answer: |
| ../../../../../Desktop/Screen%20Shot%202016-04-10%20at%204.24.22%20PM | Solutions identified from graph:  Prove your answer: |
| ../../../../../Desktop/Screen%20Shot%202016-04-10%20at%204.36.09%20PM | Solutions identified from graph:  Prove your answer: |

Application Problems

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| ../../../../../Desktop/Screen%20Shot%202016-04-10%20at%207.30.22%20PMTwo classmates, Mika and Ben, plan to meet in the computer lab to type up their research papers. Mika can type at a speed of 1 page per hour, whereas Ben can type 2 pages per hour. So far, Mika already has 5 pages typed up, compared to Ben's 3 pages. Below is a graph of their total number of pages typed as a function of hours.   1. List at least 2 reasons the graph to the left is an accurate representation of the given information.      1. Is there a point at which Mika and Ben will have the same page count? If so, how long will it take for them to reach that point? If not, explain why not.       b) For what range of time will Ben have a larger page count than Mika (i.e. *from 8 to 10 hours*). Justify your answer mathematically.    c) For what range of time will Mika have a larger page count than Ben? Justify your answer mathematically. |
| The volleyball team and the wrestling team at Georgetown High School are having a joint car wash today, and they are splitting the revenues. The volleyball team gets $3 per car. In addition, they have already brought in $30 from past fundraisers. The wrestling team has raised $50 in the past, and they are making $1 per car today. After washing a certain number of cars together, each team will have raised the same amount in total. What will that total be?  ../../../../../Desktop/Screen%20Shot%202016-04-10%20at%206.47.23%20PM |